

I CLAIM AS MY INVENTION:

1. (Amended) An inverter bypass safety switch for rerouting electrical power either through or around an inverter drive during electrical disturbances and suitable to directly handle high power motor loads, said switch comprising one or more sections joined together [by throughbolts] to form a [substantially cylindrical] contact block having a central axis, a rotatable shaft disposed along the central axis, electrically conductive exterior interconnections for connecting selected stationary contacts, externally mounted electrical contacts for receiving electrical wires, and a handle mounted on one end of the shaft that can be turned by an operator, each section comprising:

a cam mounted on the shaft;

at least one [pair of] stationary contact[s] connected to the contact block; and

at least one radially sliding moveable contact operably connected to the cam by a spring-loaded follower that biases the moveable contact into engagement with the [pair of] stationary contact[s] when a low profile section of the cam faces the follower;

wherein manual rotation of the shaft causes the cam to rotate and act upon the moveable contact to cause the moveable contact to move either into or out of engagement with the stationary contact[s], thus causing electrical power to be directed either through or around the inverter drive.

2. The inverter bypass safety switch of claim 1 wherein the shape of the cams, the placement of the cams within the sections and in relation to the other cams, the placement of exterior interconnections of the stationary contacts and the attachment of exterior wires are all selected to provide four discreet switching patterns, namely:

a DRIVE pattern, wherein electrical power is routed through the inverter bypass safety switch to the inverter drive, from the inverter drive back to the inverter bypass safety switch and then to an application;

a LINE pattern, wherein electrical power is routed from an incoming power source through the inverter bypass safety switch and directly to the application;

an OFF pattern, wherein electrical power is disconnected from both the inverter bypass safety switch and the application; and

a TEST pattern, wherein electrical power is routed through the inverter bypass safety switch to the inverter drive, but no power is sent from the inverter drive to the application.

3. An inverter bypass safety switch for rerouting electrical power around an inverter drive during electrical disturbances, said switch comprising:

a base having two sides;

one or more power sections stacked on one side of the base and joined together by throughbolts to form a substantially

cylindrical contact block having a central axis, each power section comprising a body portion, a cam mounted on a rotatable shaft extending through the power sections along the contact block central axis, at least one pair of stationary contacts keyed into the body portion of their respective section of the contact block and electrically connected to externally mounted electrical terminals for fastening external wires, and at least one radially sliding moveable contact operably connected to the cam by a spring-loaded follower that biases the moveable contact into contact with the pair of stationary contacts when a low profile section of the cam faces the follower;

one or more auxiliary sections stacked on the base side
opposite the power sections for controlling auxiliary devices;
and

electrically conductive exterior interconnections for
connecting selected externally mounted electrical terminals;

wherein manual rotation of the shaft causes the cams to rotate and act upon the moveable contacts to cause them to move either into or out of contact with the stationary contacts, thus causing electrical power to be disconnected from both the incoming lines into the inverter drive and the outgoing lines from the inverter drive.

4. (New) The inverter bypass safety switch of claim 1 wherein the shape of the cams, the placement of the cams within the sections and in relation to the other cams, the placement of

exterior interconnections of the stationary contacts and the attachment of exterior wires are all selected to provide three discreet switching patterns, namely:

5 a DRIVE pattern, wherein electrical power is routed through the inverter bypass safety switch to the inverter drive, from the inverter drive back to the inverter bypass safety switch and then to an application;

10 a LINE pattern, wherein electrical power is routed from an incoming power source through the inverter bypass safety switch and directly to the application; and

an OFF pattern, wherein electrical power is disconnected from both the inverter bypass safety switch and the application.

5. (New) The inverter bypass safety switch of claim 1 wherein the shape of the cams, the placement of the cams within the sections and in relation to the other cams, the placement of exterior interconnections of the stationary contacts and the attachment of exterior wires are all selected to provide two discreet switching patterns, namely:

20 a DRIVE pattern, wherein electrical power is routed through the inverter bypass safety switch to the inverter drive, from the inverter drive back to the inverter bypass safety switch and then to an application; and

25 a LINE pattern, wherein electrical power is routed from an incoming power source through the inverter bypass safety switch and directly to the application.